

IN THE CLAIMS

Please amend Claims 1, 3, 4, 6-10 and 12-18 to read as follows.

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1. (Currently Amended) A liquid discharging head comprising:
a pair of substrates connected in a laminated state;
a plurality of liquid channels formed on a connected surface of one of said pair of substrates;
a plurality of driving elements, each formed at a predetermined position above a corresponding one of said plurality of liquid channels; and
orifices, each communicating with a distal end of a corresponding one of said plurality of liquid channels,
wherein a liquid is discharged from each of said orifices by an operation of a corresponding one of said plurality of driving elements, and
wherein a face surface, serving as an outer surface of a member including said orifices, is coated with a water repellent material having ~~an ultrahigh water-repellent a~~ superhydrophobic property.

2. (Original) A liquid discharging head according to Claim 1, wherein each of said plurality of driving elements is a heating element for generating thermal energy, and wherein the liquid within each of said plurality of liquid channels is boiled by a corresponding one of said heating elements to generate a bubble in the liquid, and the liquid is discharged from

a corresponding one of said orifices due to a pressure generated during the generation of the bubble.

3. (Currently Amended) A liquid discharging head according to Claim 1, wherein a contact angle made by the water-repellent material having the ~~ultrahigh water-repellent~~ superhydrophobic property and the liquid is at least 150 degrees.

4. (Currently Amended) A liquid discharging head according to Claim 1, wherein the water-repellent material having the ~~ultrahigh water-repellent~~ superhydrophobic property contains fluoroalkylmethoxysilane.

5. (Original) A liquid discharging apparatus comprising a liquid discharging head according to any one of Claims 1 through 4.

6. (Currently Amended) A liquid discharging apparatus comprising a liquid discharging head according to any one of Claims 1 through 4, and a cleaning member for removing contamination adhering to the said face surface, surface serving as the said outer surface of the said member where said orifices are formed.

7. (Currently Amended) A liquid discharging apparatus according to Claim 6, wherein said cleaning member comprises a polyurethane rubber elastic member, and wherein

a water-repellent film is formed on a surface of said cleaning member contacting ~~the~~ said face surface.

8. (Currently Amended) A liquid discharging head comprising:
discharging ports for discharging a liquid;
liquid channels communicating with corresponding ones of said discharging ports;
heating elements, each formed at a predetermined position above a corresponding one of said liquid channels; and
a supply port for supplying said liquid channels with the liquid, wherein the liquid within each of said liquid channels is boiled by a corresponding one of said heating elements to generate a bubble, and the liquid is discharged from a corresponding one of said discharging ports due to a pressure generated during the generation of the bubble, and
wherein a face surface, serving as an outer surface of a member for forming said discharging ports, is coated with a water repellent material having ~~an ultrahigh~~ water-repellent a superhydrophobic property.

9. (Currently Amended) A liquid discharging head according to Claim 8, wherein a contact angle made by the water-repellent material having the ~~ultrahigh water-repellent~~ superhydrophobic property and the liquid is at least 150 degrees.

10. (Currently Amended) A liquid discharging head according to Claim 8, wherein the water-repellent material having the ~~ultrahigh water-repellent~~ superhydrophobic property contains fluoroalkylmethoxysilane.

11. (Original) A liquid discharging apparatus comprising a liquid discharging head according to any one of Claims 8 through 10.

12. (Currently Amended) A liquid discharging apparatus comprising a liquid discharging head according to any one of Claims 8 through 10, and a cleaning member for removing contamination adhering to the said face surface, surface serving as the said outer surface of the said member where said discharging ports are formed.

13. (Currently Amended) A liquid discharging apparatus according to Claim 12, wherein said cleaning member comprises a polyurethane rubber elastic member, and wherein a water-repellent film is formed on a surface of said cleaning member contacting the said face surface.

14. (Currently Amended) A method for manufacturing a liquid discharging head, said method comprising the steps of:

forming a plurality of driving elements on a surface of at least one of a pair of substrates;

forming a plurality of liquid channels so as to correspond to the plurality of driving elements;

connecting the pair of substrates so as to provide a laminated state in which a surface where the plurality of liquid channels are formed is a connecting surface;

forming a member for forming orifices at a distal end of a at least one of the connected substrates;

coating a face surface, serving as an outer surface of the member, with a

water repellent material having an ~~ultrahigh water-repellent~~ superhydrophobic property; and

causing the orifices to communicate with corresponding ones of the liquid channels.

15. (Currently Amended) A method for manufacturing a liquid discharging head, said method comprising the steps of:

forming an element substrate made of silicon on a surface of at least one of a pair of substrates;

forming a plurality of heating elements for generating thermal energy on the element substrate;

forming a plurality of liquid channels corresponding to the plurality of heating elements;

connecting the pair of substrates so as to provide a laminated state in which a surface where the plurality of liquid channels are formed is a connecting surface;

forming a member for forming orifices at a distal end of a at least one of
the pair of connected substrates;

coating a face surface, serving as an outer surface of the member, with a
water repellent material having ~~an ultrahigh water-repellent~~ a superhydrophobic property; and

causing the orifices to communicate with corresponding ones of the liquid
channels.

16. (Currently Amended) A method for manufacturing a liquid discharging
head, said method comprising the steps of:

forming heating elements for generating thermal energy on an element
substrate made of silicon;

forming liquid channels corresponding to the heating elements;

forming a supply port for supplying the liquid channels with a liquid;

forming a member ~~where~~ on which discharging ports for discharging the
liquid are to be formed;

coating the member with a water repellent material having ~~an ultrahigh~~
~~water-repellent~~ a superhydrophobic property; and

forming the discharging ports in the coated member.

17. (Currently Amended) A method according to any one of Claims 14
through 16, wherein ~~the~~ said coating step is performed according to a film forming method using
a chemical vapor reaction or a radical polymerization reaction.

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18. (Currently Amended) A method according to any one of Claims 14 through ~~17~~ 16, wherein heat treatment at ~~150~~ 150° C is performed after said coating step.
